

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002269**Date Inspected:** 12-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island

CWI Name:	Wang Cheng Jun, Yang Yi Heng			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A
Bridge No:	34-0006			Component:	Skin plates	

Summary of Items Observed:

"Push down" Heat straightening on skin plate (Tower bay#1 and bay2) Caltrans Quality Assurance Inspector (QAI) observed few Zhenhua Port Machinery Co (ZPMC) heat straightening operators performed heat straightening with ZPMC Heat Straightening Report (HSR) on plate numbered PSA294, P143, P853W and P853E. The heating temperature is maximum 650 C (1200 F) and cool in still air. All the plates have been monitored and recorded and inspected by ZPMC QC within from 0.5mm to 1mm off set (Caltrans requirement Max 3mm) after heat straightening. Based on Caltrans QAI observation, no discrepancies were noted.

Submerged Arc Welding (SAW) process on skin plate (Tower bay#1): Caltrans QAI observed four ZPMC welding operators performed semi-automatic SAW on the splice weld of ASTM 709 345 skin plate numbered P1028B to P1028A with 65mm wall thickness, weld# SSD1-SA15A/F-32A, skin plated numbered P310 to SA178 with 70mm wall thickness, weld# SSD1-SA178C/D-14A-14B, SSD1-SA178C/D-10-12 and SSD1-SA178C/D-4A-4B. The weld designed is a double -V-groove with welding conducted in the in flat position (1G) with proper 4.8mm diameter wire feed electrode JW3 and flux/J1-B, made by China Company and completed with approximate five pass. The parameters used for SAW welding of splice weld was conducted in accordance with Caltrans approved WPS-B-T-2221-B-U3. The semi-automatic SAW was monitored and recorded by ABF Certified Welding Inspector (CWI) Miss. Xie Yan Mr. Wei Jiam Bo. Based on Caltrans QAI observations, no discrepancies were noted.

Fit-up and Shield Metal Arc Welding (SMAW) tack welding on splice weld of skin plate (Tower Bay#1): Caltrans QAI observed two ZPMC workers in process grinding to remove numerous tightly adhering oxide film and a cutting (notch), which laid on the base metal surface after Oxy-Fuel Cutting, along with the edges of web bevel of skin plate numbered P327B and P326S with 65mm wall thickness. The oxide films were produced by

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oxyacetylene cutting process. The double V groove of two skin plates have been connected and secured with the clamps after grinding process was completed and inspected by ZPMC QC inspector and ABF CWI inspector. Numerous 1/2 inch length SMAW tack welds are evenly spaced around the skin plates bevel by approved welder. The parameters used for the SMAW tacks welding of the skins were conducted in accordance with Caltrans approved WPS. Based on Caltrans QAI observations, no discrepancies were noted.

Flux Cored Arc Welding (FCAW) welding process on skin plate (Tower Bay#1): Caltrans QAI observed a welder was performing FCAW process on splice weld of skin plate numbered P329S to P327B with 65mm wall thickness, weld# SSD1-SA159E/J-10B. The parameters used for FCAW process of splice weld was conducted in accordance with Caltrans approved WPS-B-T-2231-B-U3-F. The electrode being used is super cored 71.H with 0.14mm diameter made by China Company. The FCAW process was monitored and recorded by ZPMC QC Inspector and ABF CWI. Base on Caltrans observation, no discrepancies were noted.

SAW process on skin plate (Tower bay#2): Caltrans QAI observed three ZPMC welding operators performed semi-automatic SAW on the splice weld of ASTM 709 345 skin plate numbered P446 to SA375 to P1320 with 90mm wall thickness; weld# WSD1-SA107B/J-16A; skin plate numbered P375 to P228 with 90mm wall thickness; weld# WSD1-SA107B/J-17B, skin plate numbered P609 to P306, P290, P709 with 100mm wall thickness; weld# ESD1-SA216J/K-15B, ESD1-SA216J/K-7B, ESD1-SA216K/K-4, ESD1-SA216J/K-8B, ESD1-SA216-J/K-26. The weld designed is a double -V-groove with welding conducted in the in flat position (1G) with proper 4.8mm diameter wire feed electrode JW3 and flux/J1-B, made by China Company and completed with approximate five pass. The parameters used for SAW welding of splice weld was conducted in accordance with Caltrans approved WPS-B-T-2221-B-U3. The semi-automatic SAW was monitored and recorded by ABF CWI Mr. Yang Yi Heng. Based on Caltrans QAI observations, no discrepancies were noted.

Summary of Conversations:

As Note within the report above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Wahbeh Mazen (818)292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Pau,Wai	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer
